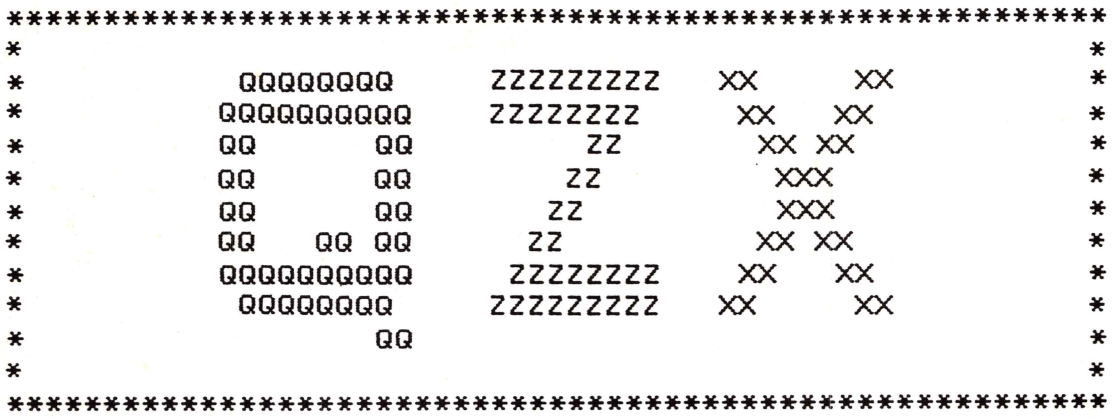
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EDITOR'S NOTES

K5XY

So I am back from looking at the eclipse. We were very lucky in one way, we did see the eclipse. We saw about 2 of the four minutes, but the rest of the time was blocked by clouds. All this in an area that was predicted to have some of the best eclipse watching weather possible. Some of the people not many miles from where I was did not see any of it. Others, a little further away in the second best area, saw it all.

One of the best places was on top of a mountain somewhat east of the Kona airport. A wide area 2m repeater for the island of Hawaii is on top, and I heard several amateurs reporting their progress as they made their way up the difficult climb. They certainly had a good view.

I was prepared to make contact with KH6AFM while in Honolulu. Ray is a long time QZX subscriber. Unfortunately I did not have enough time between planes to either call him on 2 meters or the telephone.

However Ray did renew his subscription and enclosed a generous contribution to the postage fund. It is gestures such as that which go far to keeping QZX running. The gesture goes beyond making certain that there is enough money to mail the magazine; it means that some of the readers really care that it continues.

Speaking of continuing, the Sinclair Amstrad Radio User Group and their newsletter is not. SARUG lasted for almost ten years, but the issue number 36 of their newsletter was the last. This group was based in Great Britain and was in the business almost as long as QZX. Now QZX is the only newsletter devoted to the amateur radio uses of the Sinclair family of computers. QZX often used some of the information printed in their newsletter and they reprinted some of our articles. In fact, the last issue used two QZX articles. I am sad to see them go.

Changes in the computing setup here are in the works. I am getting a new printer and some new software. The print quality of QZX should improve; and, if I keep at it, more illustrations should be in the newsletter too.

This issue gets mailed in July too.

QZX FRIENDS

KH6AFM -- Ray renewed and sent a generous contribution to the postage fund.

KA6OCD -- Coyt also renewed and sent a contribution to the postage fund.

WB8KON -- Bruce also renewed and sent a contribution to the postage fund. He has been with us from the beginning.

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TS2068 Serial Out

One of the best uses of the TS2068 is as a terminal for packet radio. For this use you need a serial output to the TNC. This article indicates two possible ways to get the required seial output and gives the details necessary to make up the needed serial cable.

T/S 2068 Serial Cable

By Gallen Bench

From The Plotter March 1990

Fellow TS 2068 users. I have found over the last few months that some of the information needed to complete some projects is not always clear with the instructions you may receive with the project. During the last couple of months I have started two such projects, namely the conversion of the 2050 modem to a modified serial port, and the building of a Z-SIO port card for my 2068.

The building of both projects was not that hard to do, having some prior kit building experience, especially soldering. Let me say that the first thing anyone must have is the patience to keep working at it to get it right. After completing each of the two projects, I ran into the same problem. I needed a serial port cable that would work with each of the two projects. The 2050 converted serial port had to have a male DB25 to female DB9 cable. The Z-SIO serial port card had to have a male DB25 to male DB25 cable (DB9 and DB25 refers to the connector types).

The instructions for each project did not give a clear pinout for either cable. They did give the signal available at each pin, but how these should be configured with the signals needed for the external modem was not given. After some study and just plain trial and error, I was able to find the correct configuration for each cable. The information was there, but for a novice, it took a little work and some added advice from some friends to put it together right.

Listed below is the serial cable configuration that I have found will work on the Z-SIO serial port card, and the modified 2050 serial port. I hope this information is helpful.

RS 232	2050 SERIAL	Z-SIO
1 GRN	1 GRD	1 GRD
2 TX	2 TX	2 TX
3 RX	3 RX	3 RX
4 RTS	8 RTS	4 RTS
5 CTS	:---5 CTS	:---5 CTS
6 DSR	:---6 DSR	:---6 DSR
7 S.GND	:---7 S.GNS	:---7 S.GND
20 DTR	:---4 DTR	:--20 DTR
	:	:
	:---JUMPER----:	

I hope the above listing of how I constructed the cables for either of these serial ports will be helpful.

SATELLITE TRACKING

W6WNK and WA6DLI

This month we continue the satellite tracking program by W6WNK as modified by WA6DLI. The underlying program was distributed by AMSAT. Bob modified the program when N6VMO asked for a Timex satellite tracker so he could put his to use. It is very instructive to see the tricks used to straighten out dates in this program. It has been modified for OSC-13 with the latest parameters included. G2 has also been amended to cover the sideral parameters for later years.

The TS1000 memory limit keeps it from having a data base of Keplerian (Keps) constants for a selection of satellites to permit a choice. But a tape made and edited for each satellite works just fine.

```
3540 SLOW
3545 LET I = 1
3550 FOR S = 1 TO 9999


3560 PLOT LO, LA
3590 UNPLOT LO, LA
3595 LET I = I+1
3600 PLOT LO, LA
3620 IF I = 17 THEN GOTO 3660
3625 NEXT S
3660 FAST
3661 GOTO 9005
3666 GOTO 3010
5070 CLS
5080 LET A = 3
5110 GOTO 6200
5120 LET DIF=ABS (W5-LO)
5130 IF DIF > 180 THEN LET DIF = 360-DIF
5140 LET DZ1 = ((SIN (LA*PO)) * ((SIN (L5*PO)) + (COS (LA*PO)) *
     (COS (L5*PO)) * (COS (DIF*PO)))
5150 LET DZ1 = 57.3 * (-ATN (DZ1/SQR (-DZ1*DZ1+1)) + PI/2)
5160 IF DZ > DZ1 THEN PRINT TAB 30;"IN"  :REM 'in' in INVERSE
5170 IF DZ < DZ1 THEN PRINT TAB 30;"--"
5180 RETURN
5260 LET LA = 13.75
5265 LET LO = -100.52
5268 PRINT AT 3,19;"BANGKOK";
5270 GOSUB 5120
5271 LET LA = 18.97
5274 LET LO =-72.83
5275 PRINT AT 4,19;"BOMBAY";
5280 GOSUB 5120
5290 LET LA = 30.05
5300 LET LO =-31.25
5305 PRINT AT 5,19;"CAIRO";
5310 GOSUB 5120
5320 LET LA = -33.92
5330 LET LO = -18.37
5340 PRINT AT 6,19;"CAPE TOWN";
5350 GOSUB 5120
5360 LET LA = 34.17
5370 LET LO = 117.97
5410 PRINT AT 7,19;"LOS ANGELES";
5420 GOSUB 5120
5430 LET LA = 28.67
5440 LET LO =-77.22
5450 PRINT AT 8,19;"DELHI";
5460 GOSUB 5120
5470 LET LA = 64.83
5480 LET LO = 147.72
5490 PRINT AT 12,19;"FAIRBANKS";
5600 GOSUB 5120
5610 LET LA = 40.72
5620 LET LO = 74.02
5630 PRINT AT 13,19;"NEW YORK";
5640 GOSUB 5120
5650 LET LA = 59.92
```

```
5660 LET LO =-10.75
5665 PRINT AT 14,19;"OSLO";
5667 GOSUB 5120
5670 LET LA = -17.55
5680 LET LO = 149.6


5685 PRINT AT 15,19;"PAPEETE";
5690 GOSUB 5120
5720 LET LA = -31.93
5730 LET LO =-115.83
5740 PRINT AT 16,19;"PERTH";
5750 GOSUB 5120
5760 LET LA = -22.90
5800 LET LO = 45.25
5810 PRINT AT 17,19;"RIO";
5820 GOSUB 5120
5830 LET LA = 1.28
5840 LET LO = -103.85
5850 PRINT AT 18,19;"SINGAPORE";
5860 GOSUB 5120
5900 LET LA = -33.87
5910 LET LO = -151.22
5920 PRINT AT 19,19;"SYDNEY";
5930 GOSUB 5120
5940 LET LA = 35.7
5950 LET LO = -139.77
5960 PRINT AT 20,19;"TOKYO";
5970 GOSUB 5120
5980 LET LA = -41.3
5990 LET LO =-174.77
6000 PRINT AT 21,19;"WELLINGTON";
6010 GOSUB 5120
6020 RETURN
6030 LET D$ = STR$ (T4)
6040 DIM E$(4)
6050 LET E$ = "0000"
6060 DIM T$(4)
6070 LET U = 4-LEN D$
6080 LET T$=E$(1 TO U)
6090 RETURN
6231 PRINT AT 1,3;"TYPE  DAY  OF  MONTH: ";
6235 INPUT DM
6240 PRINT DM
6245 PRINT AT 2,3;"TYPE NUMBER OF MONTH: ";
6250 INPUT MO
6255 PRINT MO
6260 PRINT AT 3,3;"TYPE YEAR (E.G. 91): ";
6265 INPUT YR
6270 PRINT YR
6271 PRINT AT 4,3;"TYPE UTC START TIME:";
6272 INPUT S$
6273 PRINT S$
6275 PRINT AT 6,1;"PICK QTH DESIRED:--"
6280 PRINT AT 7,3;"TYPE 1 HOME QTH(LINE 6800)ssssssTYPE 2 FOR AUCKLAND (ZL
     sssssssssTYPE 3 FOR TOKYO   (JA)sssssssssssTYPE 4 FOR LONDON   (G)
     sssssssssTYPE 5 FOR NYC,PHILA.NJ-AREAssssTYPE 6 FOR NAROBI,KENYA"
6281 INPUT CA
```

```
6282 PRINT CA
6290 PRINT AT 15,3;"(GSE 24-GS7 GSR)"
6295 PRINT TAB 3;"(GS5)"; TAB 28;"(GS8)"
6300 PRINT TAB 3;"(GS5)"; TAB 28;"(GS8)"
6305 PRINT TAB 3;"(GS5)"; TAB 28;"(GS8)"
6310 PRINT TAB 3;"(GSW 24-GS6 GSQ)"
6315 PRINT AT 16,4;"THE DISPLAY WILL NOW GO"


6320 PRINT AT 18,4;"TO BLANK FOR -3- MINUTES"
6415 GOTO 4
6416 LET T1 = VAL S$
6420 FOR N = 0 TO 26
6430 NEXT N
6435 FAST
6440 LET D6=INT (YR/4) - INT ((YR - 1)/4 + 212 + DM + (SGN (MO-8)*(INT (.5 +
     (ABS ((MO-8)*30.5))))))
6450 IF MO < 3 THEN LET D6 = DM + (MO - 1) * 31
6460 CLS
6500 REM KEPLERIAN ELEMENTS:-OSCAR 13
6515 REM INPUT YEAR, EG 91
6520 LET Y2 = 91
6525 REM INPUT DAY OF YEAR (EPOCH DAY)
6530 LET JD = 134.17571525
6535 REM INCLINATION
6540 LET IO = 56.8159
6545 REM INPUT RAAN (RA OF NODE)
6560 LET RAAN = 94.8036
6590 REM INPUT ECCENTRICITY
6600 LET EO = 0.7174466
6605 REM INPUT ARG OF PERIGEE
6610 LET WO = 254.3124
6615 REM INPUT MEAN ANOMALY
6620 LET MA = 22.1690
6625 REM INPUT MEAN MOTION (REV/DAY)
6630 LET MM = 2.09695394
6635 REM  END KEPLERIAN FILE
6636 REM RUN AND ENTER FOR MENU (make inverse text)
6640 LET GO = 7.5369793E13
6650 LET G1 = 1.0027379093
6710 LET G2 = 0.27544157
6730 LET D6 = D6 + 365 *(YR-Y2)
6740 LET PI = 3.14159265
6750 LET P2 = 2*PI
6760 LET PO = PI/180
6770 LET T2 = (INT (T1/100))/24 + D6
6780 LET T = T2
6790 IF CA = 2 THEN GOTO 9120
6791 IF CA = 3 THEN GOTO 9130
6792 IF CA = 4 THEN GOTO 9135
6793 IF CA = 5 THEN GOTO 9140
6794 IF CA = 6 THEN GOT  9150
6790 REM HOME QTH LATITUDE = L9
6800 LET L9 = 34.17
6805 REM HOME QTH LONGITUDE = W9
6810 LET W9 = 117.97
6815 REM HOME QTH ELEV IN METERS = H9
6820 LET H9 = 120
```

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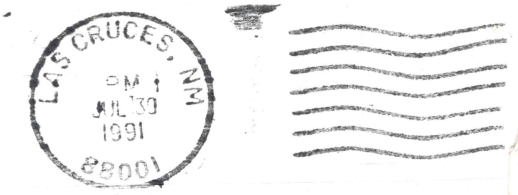

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